

CLAIMS

1. (Cancelled).
2. (Currently Amended) An optical switching device according to claim 10 5, wherein the optical member is disposed displaceable so as to move an output point of the optical signal into a direction along an aligning direction of the plurality of input/output ports; and
wherein the optical member is disposed displaceable so as to move the output point of the optical signal into a direction intersecting the aligning direction of the plurality of input/output ports.
3. (Currently Amended) An optical switching device according to claim 10 5, further comprising an optical demultiplexer device for demultiplexing a wavelength division multiplexing optical signal into individual wavelengths; and
wherein the switch comprises a plurality of reflective optical members corresponding to respective signal light components demultiplexed into the individual wavelengths.
4. (Cancelled).
5. (Currently Amended) An optical switching device ~~according to claim 10~~, comprising:
a plurality of input/output ports for inputting/outputting optical signals;
a switch positioned in an optical path between a first input/output port and second
input/output port of said input/output ports, the switch comprising:
a reflective optical member;

a substrate;

a cantilever opposing the substrate and having a first end fixed thereto, a second end separated from the substrate, and a portion intermediate the first and second ends supporting the optical member;

wherein the switch is configured to switch the optical path from the second input/output port to a third input/output port of said input/output ports while precluding an optical signal in the optical path from traversing the remaining input/output ports; and wherein the switch further comprises:

a first electrode, disposed on the substrate, for tilting the optical member about the axis of the cantilever; and

a second electrode, disposed on the substrate, for flexing the cantilever toward the substrate.

6. (Cancelled).

7. (Cancelled).

8. (Currently Amended) An optical transmission system comprising the optical switching device according to claim 40 5.

9. (Cancelled).

10. (Cancelled).

11. (Currently Amended) An optical switch ~~as recited in claim 9~~, comprising:
a substrate;
an optical member for reflecting light inputted;
a cantilever supporting the optical member over the substrate, the cantilever having a first
end fixed to the substrate and a distal end free of the substrate, the first end and distal end
defining a cantilever axis;
wherein the optical member is disposed so as to be able to tilt about an the axis of the
cantilever;
the distal end of the cantilever is configured for displacement in a direction orthogonal to
the axis of the cantilever; and
wherein the optical member is supported by the cantilever at a portion thereof
intermediate the first end and the distal end, and further comprising:
a first electrode, disposed on the substrate proximate the intermediate portion of the
cantilever, for tilting the optical member about the axis of the cantilever; and
a second electrode, disposed on the substrate proximate the distal end, for displacing the
distal end of the cantilever toward the substrate.

12. (Previously Presented) An optical switching device according to claim 3, further
comprising a plurality of cantilevers corresponding, respectively, to the plurality of reflective
optical members.

13. (Currently Amended) In an optical switching arrangement comprising a switch as recited in claim 11, and a plurality of aligned input and output ports, a method for switching an optical signal path from a first output port to a second output port comprising the steps of:

diverting the optical signal path in a direction out of alignment with the ports;

deflecting the optical signal path by an angle corresponding to a position of the second output port while maintaining the optical signal path out of alignment with the ports; and

directing the optical signal path into alignment with the ports to complete the signal path to the second output port;

wherein the optical signal in the signal path is precluded from traversing any of the remaining ports of the plurality of ports.

14. (Previously Presented) A method as recited in claim 13, wherein the diverting step comprises

applying the optical signal to a reflective member; and

changing the angle of reflection of the optical signal from the reflective member in a plane transverse to the alignment direction of the plurality of ports.

15. (Previously Presented) A method as recited in claim 13, wherein the deflecting step comprises:

applying the optical signal to a reflective member; and

rotating the reflective member about an axis that is transverse to a plane of alignment of the plurality of ports.